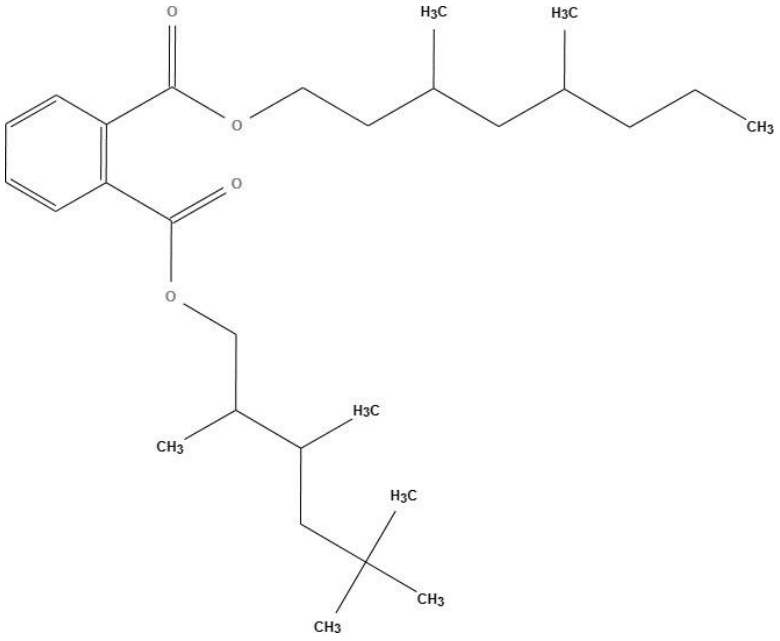
United States
Environmental Protection Agency

Office of Chemical Safety and
Pollution Prevention

Final Scope of the Risk Evaluation for Di-Isodecyl Phthalate (DIDP)

Supplemental File:

Data Extraction and Data Evaluation Tables for Physical and Chemical Property Studies CASRNs 26761-40-0 and 68515-49-1



(Representative structure)

August 2021

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Data Extraction Tables

In each table, the value preliminarily selected for use in the risk evaluation is in bold.

Table 1. Physical State Study Summary for Di-Isodecyl Phthalate (DIDP)

Study Type	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**liquid**		**(NLM, 2015)**	**High**

Table 2. Physical Properties Study Summary for DIDP

Study Type	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**clear liquid, mild odor**		**(NLM, 2015)**	**High**
Experimental	colorless oily liquid with mild odor		(RSC, 2019)	High

Table 3. Melting Point Study Summary for DIDP

Study Type	Substance Purity	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**NR**	**-50°C**		**(NLM, 2015)**	**High**
Experimental	NR	-50°C		(RSC, 2019)	Medium
Experimental	NR	-50°C		(RSC, 2019)	Medium

Table 4. Boiling Point Study Summary for DIDP

Study Type	Substance Purity	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	NR	250°C	These values are likely at reduced pressure (250-257°C at 4 mm Hg; PhysProp)	(RSC, 2019)	Medium
Experimental	NR	275°C	These values are likely at reduced pressure (250-257°C at 4 mm Hg; PhysProp)	(RSC, 2019)	Medium

Table 5. Density Study Summary for DIDP

Study Type	Study Details	Reference Substance	Temperature	Dynamic Viscosity	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental			20°C		0.966 g/cm^3		(NLM, 2015)	High
Experimental			NR		0.965 g/cm^3		(RSC, 2019)	Medium
Experimental			**293.15 K**		**0.9634 g/cm^3**	**Value at 298.15 K and 0.10 MPa; vibrating tube densimeter. The temperature was maintained within ±0.05 K, and the pressure had 0.11% uncertainty.**	**(Brito e Abreu et al., 2010)**	**High**
Experimental			25°C		0.96283 g/cm^3	Determined with an Anton-Paar DMA5000 vibrating-tube densimeter; this source also measured pressure at 0.1 Mpa	(Harris and Bair, 2007)	High

Study Type	Study Details	Reference Substance	Temperature	Dynamic Viscosity	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental			25°C		0.96285 g/cm^3	Value at 25°C and 0.1 MPa; determined with an Anton-Paar DMA5000 vibrating-tube densimeter; this source also measured density at atmospheric pressure	(Harris and Bair, 2007)	High
Experimental			25°C		0.96284 g/cm^3	Determined with an Anton-Paar DMA5000 vibrating-tube densimeter; this source also measured pressure at 0.1 MPa	(Harris and Bair, 2007)	High
Experimental			25°C		0.96284 g/cm^3	Value at 25°C and 0.1 MPa; determined with an Anton-Paar DMA5000 vibrating-tube densimeter; this source also measured density at atmospheric pressure	(Harris and Bair, 2007)	High
Experimental			NR		0.96284 g/cm^3	Reported as 962.84 kg/m^3; this source also measured densities up to 363.188 K	(Assael and Mylona, 2013)	High
Experimental			NR		0.96282 g/cm^3	Reported as 962.82 kg/m^3; estimated repeatability of (0.01%); measured using an automatic Anton Paar densimeter (model DMA 5000).	(Caetano et al., 2005)	High
Experimental			298.26 K		962.8 g/L	With 107 ppm water; reported as 962.8 kg/m^3	(Caetano et al., 2006)	High
Experimental			298.16 K		0.96290 g/cm^3	Value reported as 962.90 kg/m^3 at 298.16 K. Density measured via the vibrating tube method at atmospheric pressure, between 275.15 and 363.15 K.	(Froeba and Leipertz, 2007)	Medium
Experimental			293.15 K		0.9665 g/cm^3	Reported as 966.5 kg/m^3 at 293.15 K & 0.1 MPa pressure	(Peleties et al., 2010)	High

Study Type	Study Details	Reference Substance	Temperature	Dynamic Viscosity	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental			298.15 K		0.9632 g/cm^3	298.15 K and 0.1 Mpa	(Paredes et al., 2009)	High
Experimental			298.15 K		0.9628 g/cm^3	298.15 K and 0.1 Mpa	(Paredes et al., 2009)	High
Experimental			298.15 K		0.9630 g/cm^3	298.15 K and 0.1 Mpa	(Paredes et al., 2009)	High
Experimental; Not Reported			298.15 K		0.9601 - 0.96461 g/cm^3	At pressure = 0.1MPa and T = 298.15K, density = 960.1 kg/m^3 +/- 2.9, viscosity = 87.5mPaS +/- 1.8 (Sample B). Sample A: density = 963.66 kg/m^3 (water mass fraction = 20E-6; viscosity = 87.2 mPa*s) Sample B: density = 960.1 kg/m^3 (water mass fraction = 417E-6; viscosity = 87.5 mPa*s) Sample C: density = 964.61 kg/m^3 (water mass fraction = 29E-6; viscosity 87.3 mPa*s)	(Al Motari et al., 2007)	High

Table 6. Vapor Pressure Study Summary for DIDP

Study Type	Substance Purity	Temperature	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**NR**		**5.28E-7 mm Hg**		**(NLM, 2015)**	**High**

Table 7. Vapor Density Study Summary for DIDP

No Vapor Density data was identified for this chemical.

Table 8. Water Solubility Study Summary for DIDP

Study Type	Substance Purity	Temperature	pH	Analytical Method	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**NR**	**25°C**	**NR**		**0.28 mg/L**		**(NLM, 2015)**	**High**
Experimental	Each sample contained less than 1 % of non-PAE material, as determined by another laboratory.	25°C	NR		1.19 mg/L	Water was ASTM Type 2 water	(**Howard et al., 1985**)	High

Table 9. Octanol Water Coefficient (logKow) Study Summary for DIDP

Study Type	Substance Purity	Temperature	pH	Other Study Details (Amounts of substance liquid phases)	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**NR**	**NR**	**NR**		**10.352**		**(RSC, 2019)**	**High**

Table 10. Henry's Law Constant Study Summary for DIDP

No Henrys Law data was identified for this chemical.

Table 11. Flash Point Study Summary for DIDP

Study Type	Substance Purity	Temperature	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental	**NR**		**232°C**		**(RSC, 2019)**	**Medium**
Experimental	NR		122°C		(RSC, 2019)	Medium

Table 12. Auto Flammability Study Summary for DIDP

No Autoflammability data was identified for this chemical.

Table 13. Viscosity Study Summary for DIDP

Study Type	Apparatus	Temperature	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental		**20°C**	**108 cP**		**(NLM, 2015)**	**Medium**
Experimental		298.25 K	87.67 cP	Reported as 87.67 mPa.s at 298.25 K, 0.1 MPa. Relative uncertainty was 0.8%	(Peleties and Trusler, 2011)	High
Experimental		25.1°C	88.70 cP	Reported as 88.70 mPa.s at 298.261 K; this source also measured viscosities up to 363.188 K	(Assael and Mylona, 2013)	High
Experimental		25°C	84.1 cP	0.1 MPa; The expanded uncertainty in the viscosity is estimated at 2%	(Harris and Bair, 2007)	High
Experimental		25°C	88.4 cP	0.1 MPa; The expanded uncertainty in the viscosity is estimated at 2%	(Harris and Bair, 2007)	High
Experimental		298.24 K	87.797 cP	The estimated overall uncertainty of the results does not exceed ±1%	(Caetano et al., 2005)	High
Experimental		298.22 K	86.72 cP	Reported as 86.72 mPa.s at 298.22 K	(Caetano et al., 2004)	High
Experimental		298.26 K	87.38 cP	Reported as 87.38 mPa.s	(Caetano et al., 2006)	High
Experimental; Not Reported		298.13 K	87.76 cP	298.13K = 87.76 mPa*S; 298.58K= 85.30 mPa*S	(da Mata et al., 2009)	High
Experimental; Not Reported		298.58 K	85.30 cP	298.13K, 87.76 mPa*S and 298.58K, 85.30 mPa*S	(da Mata et al., 2009)	High
Experimental; Not Reported		298.15K	87.2 cP	Sample A: 87.2 mPa*s (water mass fraction = 20E-6; density = 963.66 kg/m^3) Sample B: 87.5 mPa*s (water mass fraction = 417E-6; density = 960.1 kg/m^3) Sample C: 87.3 mPa*s (water mass fraction = 29E- 6; density = 964.61 kg/m^3)	(Al Motari et al., 2007)	High

Study Type	Apparatus	Temperature	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Calculation		298.15 K	88.44 cP	Reported as 88.44mPa.S at atmospheric pressure calculated by dispersion relation; dispersion between liquid and gaseous phases are described by an equation which relates acceleration of gravity, dynamic viscosity, interfacial tension, and density. SLS was used to determine interfacial tension.	(Froeba and Leipertz, 2007)	High

Table 14. Refractive Index Study Summary for DIDP

Study Type	Apparatus	Result	Comments	Affiliated Reference	Data Quality Evaluation Results
Experimental		1.483		(NLM, 2015)	High
Experimental	**293.15 K**	**1.4845**	**Data consistent with the value supplied in the Merck Technical Data Sheet at the same temperature (1.485)**	**(Caetano et al., 2005)**	**High**

Table 15. Dielectric Constant Study Summary for DIDP

No Dielectric Constant data was identified for this chemical.

EPI Suite™ Model Outputs

(U.S. EPA, 2012)

CAS Number: 26761-40-0
SMILES : CC(C)CCCCCCCOC(=O)c1ccccc1C(=O)OCCCCCCCC(C)C
CHEM : 1,2-Benzenedicarboxylic acid, diisodecyl ester
MOL FOR: C28 H46 O4
MOL WT : 446.68

EPI SUMMARY (v4.11)

Physical Property Inputs:
Log Kow (octanol-water): 10.35
Boiling Point (deg C) : ------
Melting Point (deg C) : -50.00
Vapor Pressure (mm Hg) : 5.28E-007
Water Solubility (mg/L): 0.28
Henry LC (atm-m3/mole) : ------

Log Octanol-Water Partition Coef (SRC):
Log Kow (KOWWIN v1.69 estimate) = 10.36

Boiling Pt, Melting Pt, Vapor Pressure Estimations (MPBPVP v1.43):
Boiling Pt (deg C): 463.36 (Adapted Stein & Brown method)
Melting Pt (deg C): 105.95 (Mean or Weighted MP)
VP(mm Hg,25 deg C): 2.29E-007 (Modified Grain method)
VP (Pa, 25 deg C) : 3.05E-005 (Modified Grain method)
MP (exp database): -50 deg C
BP (exp database): 250-257 @ 4 mm Hg deg C
VP (exp database): 5.28E-07 mm Hg (7.04E-005 Pa) at 25 deg C

Water Solubility Estimate from Log Kow (WSKOW v1.42):
Water Solubility at 25 deg C (mg/L): 1.006e-005
log Kow used: 10.35 (user entered)
melt pt used: -50.00 deg C
Water Sol (Exper. database match) = 0.28 mg/L (24 deg C)
Exper. Ref: YALKOWSKY,SH ET AL. (2010)

Water Sol Estimate from Fragments:
Wat Sol (v1.01 est) = 1.039e-005 mg/L

ECOSAR Class Program (ECOSAR v1.11):
Class(es) found:
Esters

Henrys Law Constant (25 deg C) [HENRYWIN v3.20]:
Bond Method : 3.67E-005 atm-m3/mole (3.72E+000 Pa-m3/mole)
Group Method: 4.06E-005 atm-m3/mole (4.11E+000 Pa-m3/mole)
Exper Database: 1.11E-06 atm-m3/mole (1.12E-001 Pa-m3/mole)
For Henry LC Comparison Purposes:
User-Entered Henry LC: not entered
Henrys LC [via VP/WSol estimate using User-Entered or Estimated values]:
HLC: 1.108E-006 atm-m3/mole (1.123E-001 Pa-m3/mole)

VP: 5.28E-007 mm Hg (source: User-Entered)
WS: 0.28 mg/L (source: User-Entered)

Log Octanol-Air Partition Coefficient (25 deg C) [KOAWIN v1.10]:
Log Kow used: 10.35 (user entered)
Log Kaw used: -4.343 (exp database)
Log Koa (KOAWIN v1.10 estimate): 14.695
Log Koa (experimental database): None

Probability of Rapid Biodegradation (BIOWIN v4.10):
Biowin1 (Linear Model) : 0.8833
Biowin2 (Non-Linear Model) : 0.9920
Expert Survey Biodegradation Results:
Biowin3 (Ultimate Survey Model): 2.4925 (weeks-months)
Biowin4 (Primary Survey Model) : 3.6612 (days-weeks)
MITI Biodegradation Probability:
Biowin5 (MITI Linear Model) : 0.7028
Biowin6 (MITI Non-Linear Model): 0.7039
Anaerobic Biodegradation Probability:
Biowin7 (Anaerobic Linear Model): 0.5119
Ready Biodegradability Prediction: NO

Hydrocarbon Biodegradation (BioHCwin v1.01):
Structure incompatible with current estimation method!

Sorption to aerosols (25 Dec C)[AEROWIN v1.00]:
Vapor pressure (liquid/subcooled): 7.04E-005 Pa (5.28E-007 mm Hg)
Log Koa (Koawin est): 14.695
Kp (particle/gas partition coef. (m3/ug)):
Mackay model : 0.0426
Octanol/air (Koa) model: 122
Fraction sorbed to airborne particulates (phi):
Junge-Pankow model : 0.606
Mackay model : 0.773
Octanol/air (Koa) model: 1

Atmospheric Oxidation (25 deg C) [AopWin v1.92]:
Hydroxyl Radicals Reaction:
OVERALL OH Rate Constant = 26.2168 E-12 cm3/molecule-sec
Half-Life = 0.408 Days (12-hr day; 1.5E6 OH/cm3)
Half-Life = 4.896 Hrs
Ozone Reaction:
No Ozone Reaction Estimation
Fraction sorbed to airborne particulates (phi):
0.69 (Junge-Pankow, Mackay avg)
1 (Koa method)
Note: the sorbed fraction may be resistant to atmospheric oxidation

Soil Adsorption Coefficient (KOCWIN v2.00):
Koc : 1.099E+006 L/kg (MCI method)
Log Koc: 6.041 (MCI method)
Koc : 3.311E+006 L/kg (Kow method)
Log Koc: 6.520 (Kow method)

Aqueous Base/Acid-Catalyzed Hydrolysis (25 deg C) [HYDROWIN v2.00]:
Total Kb for pH > 8 at 25 deg C : 6.408E-002 L/mol-sec
Kb Half-Life at pH 8: 125.185 days
Kb Half-Life at pH 7: 3.427 years
(Total Kb applies only to esters, carbmates, alkyl halides)

Bioaccumulation Estimates (BCFBAF v3.01):
Log BCF from regression-based method = 1.885 (BCF = 76.74 L/kg wet-wt)
Log Biotransformation Half-life (HL) = 0.5524 days (HL = 3.568 days)
Log BCF Arnot-Gobas method (upper trophic) = 0.081 (BCF = 1.206)
Log BAF Arnot-Gobas method (upper trophic) = 0.950 (BAF = 8.903)
log Kow used: 10.35 (user entered)

Volatilization from Water:
Henry LC: 1.11E-006 atm-m3/mole (Henry experimental database)
Half-Life from Model River: 1117 hours (46.54 days)
Half-Life from Model Lake : 1.236E+004 hours (515.1 days)

Removal in Wastewater Treatment:
Total removal: 94.04 percent
Total biodegradation: 0.78 percent
Total sludge adsorption: 93.26 percent
Total to Air: 0.00 percent
(using 10000 hr Bio P,A,S)

Level III Fugacity Model: (MCI Method)
** Note: When the Log Kow is > 7, the model may be underestimating
the mass of material in sediment and overestimating the mass of
material in the water column (biota). Consider using the results
of the default EQC model. **

	Mass Amount (percent)	Half-Life (hr)	Emissions (kg/hr)
Air	0.27	9.79	1000
Water	15.7	900	1000
Soil	83.2	1.8e+003	1000
Sediment	0.912	8.1e+003	0

Persistence Time: 1.22e+003 hr

Level III Fugacity Model: (MCI Method with Water percents)

	Mass Amount (percent)	Half-Life (hr)	Emissions (kg/hr)
Air	0.27	9.79	1000
Water	15.7	900	1000
water	(0.0139)		
biota	(15.6)		
suspended sediment	(0.0229)		
Soil	83.2	1.8e+003	1000
Sediment	0.912	8.1e+003	0

Persistence Time: 1.22e+003 hr

Level III Fugacity Model: (EQC Default)

	Mass Amount (percent)	Half-Life (hr)	Emissions (kg/hr)

Air	0.1	9.79	1000
Water	1.82	900	1000
water	(0.000122)		
biota	(0.137)		
suspended sediment	(1.69)		
Soil	30.9	1.8e+003	1000
Sediment	67.2	8.1e+003	0

Persistence Time: 3.3e+003 hr

Data Evaluation Tables

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Reliability / Analytical Method	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Other	**Databases**	High	Data is from a publicly available and peer-reviewed database.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Physical State reported by this reference.						
Cited reference: Lewis, R.J. Sr. 2007. Hawley's Condensed Chemical Dictionary 15th Edition. John Wiley & Sons, Inc. New York, NY. P. 435.						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Reliability / Analytical Method	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Other	**Databases**	High	Data is from a publicly available and peer-reviewed database.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	2	2	2
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Physical Properties reported by this reference.						
Cited reference: Lewis, R.J. Sr. 2007. Hawley's Condensed Chemical Dictionary 15th Edition. John Wiley & Sons, Inc. New York, NY. P. 435.						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Reliability / Analytical Method	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed original sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	2	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.5	**Overall Score (Rounded):**	1.5
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Physical Properties reported by this reference.						
Cited reference: Oxford University Chemical Safety Data						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available, peer-reviewed database that provides references to a recognized data collection.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	7	5	7
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.4	**Overall Score (Rounded):**	1.4
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Melting Point reported by this reference.						
Cited reference: Haynes, W.M. (Ed.) 2014. CRC Handbook of Chemistry and Physics. 95th Edition. CRC Press LLC, Boca Raton: FL 2014. p. 3-194.						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	Medium	Data are measured or estimated for the subject chemical substance.	2	1	2
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	10	5	10
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	2	**Overall Score (Rounded):**	2
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Melting Point reported by this reference.						
Cited reference: Jean-Claude Bradley Open Melting Point Dataset						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	9	5	9
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.8	**Overall Score (Rounded):**	1.8
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Melting Point reported by this reference.						
Cited reference: Oxford University Chemical Safety Data						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	9	5	9
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.8	**Overall Score (Rounded):**	1.8
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Boiling Point reported by this reference.						
Cited reference: Matrix Scientific						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	9	5	9
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.8	**Overall Score (Rounded):**	1.8
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Boiling Point reported by this reference.						
Cited reference: Oxford University Chemical Safety Data						

Study Reference:	Caetano et al. (2006).					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Brito e Abreu, et al. (2010)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Medium	The analytical method is non-standard but is expected to be appropriate.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Assael and Mylona. (2013)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Caetano, et al. (2005)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Froeba and Leipertz (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome. Methodology well described, supporting theory lacking characterization.	2	1	2
	Reliability / Analytical Method	Medium	The analytical method is non-standard but is expected to be appropriate. Analytical method appears to be common, but no standard method is stated.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	5	3	5
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.67	**Overall Score (Rounded):**	1.67
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Peleties et al. (2010)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Paredes et al. (2009)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Paredes et al. (2009)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Paredes et al. (2009)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	Al Motari et al. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available, peer-reviewed database that provides references to a peer-reviewed data collection.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	6	4	6
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.5	**Overall Score (Rounded):**	1.5
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Density reported by this reference.						
Cited reference: Haynes, W.M. (Ed.) 2014. CRC Handbook of Chemistry and Physics. 95th Edition. CRC Press LLC, Boca Raton: FL 2014. p. 3-194.						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used.	3	1	3
Other	**Databases**	Medium	Data is from a secondary database with references to the peer-reviewed original source.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	8	4	8
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	2	**Overall Score (Rounded):**	2
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Density reported by this reference.						
Cited reference: Matrix Scientific						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available, peer-reviewed database that provides references to original sources.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	7	5	7
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.4	**Overall Score (Rounded):**	1.4
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Vapor Pressure reported by this reference.						
Cited reference: Yaws, C.L. 1994. Handbook of Vapor Pressure, Vol 3 C8 to C28, Houston, TX: Gulf Publishing Co.						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available database that provides references to original sources.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	7	5	7
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.4	**Overall Score (Rounded):**	1.4
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Water Solubility reported by this reference.						
Cited reference: Yalkowsky, S.H., He, Yan, Jain, P. 2010. Handbook of Aqueous Solubility Data Second Edition. CRC Press, Boca Raton, FL. P. 1325.						

Study Reference:	Howard et al. (1985)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical substance structural features (*e.g.*, presence of certain functional groups) and other physical/chemical properties	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	4	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Water Solubility reported by this reference.						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	High	Measured data are consistent with the subject chemical's physical/chemical properties.	1	1	1
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available secondary source with references to non-peer reviewed sources.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	7	5	7
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.4	**Overall Score (Rounded):**	1.4
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Octanol Water Coefficient (logKow) reported by this reference.						
Cited reference: LabNetwork						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	8	4	8
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	2	**Overall Score (Rounded):**	2
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Flash Point reported by this reference.						
Cited reference: LabNetwork						

Study Reference:	RSC. (2019)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Low	The analytical method is unknown and there is no indication that a reliable method was used	3	1	3
Other	**Databases**	Medium	Data is from a publicly available secondary source with references to non-peer reviewed sources.	2	1	2
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	8	4	8
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	2	**Overall Score (Rounded):**	2
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	Medium
The reviewer agreed with the overall rating for the Flash Point reported by this reference.						
Cited reference: Oxford University Chemical Safety Data						

Study Reference:	Caetano et al. (2006).					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Medium	The analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Peleties and Trusler (2011)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear. Methodology and theory were well characterized.	1	1	1
	Reliability / Analytical Method	Medium	The analytical method is non-standard but is expected to be appropriate. The analytical method did not follow a stated standard.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Froeba and Leipertz (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	High	The model had a defined, unambiguous endpoint AND the model performance was known and r2 > 0.7, q2 > 0.5, and SE < 0.3 (ECHA, 2016).	1	1	1
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Froeba and Leipertz (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Medium	The analytical method is non-standard but is expected to be appropriate.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Assael and Mylona. (2013)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1

	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Harris, KR; Bair, S. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Caetano, et al. (2005)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Medium	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Caetano et al. (2004)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	Medium	The analytical method is non-standard but is expected to be appropriate.	2	1	2
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	4	3	4
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.33	**Overall Score (Rounded):**	1.33
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	da Mata et al. (2009)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	da Mata et al. (2009)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	Al Motari et al. (2007)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available, peer-reviewed database that provides references to a recognized data collection.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	6	4	6
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.5	**Overall Score (Rounded):**	1.5
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Viscosity reported by this reference.						
Cited reference: Lewis, R.J. Sr. 2007. Hawley's Condensed Chemical Dictionary 15th Edition. John Wiley & Sons, Inc. New York, NY. P. 435.						

Study Reference:	Caetano, et al. (2005)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	High	The methodology for producing the information is designed to answer a specific question, and the methodology's objective is clear.	1	1	1
	Reliability / Analytical Method	High	Data are obtained by accepted standard analytical methods, including, but not limited to OECD guidelines for physical-chemical properties or other developed standard.	1	1	1
Other	**Databases**	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	3	3	3
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Refractive Index reported by this reference.						

Study Reference:	NLM. (2015)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	High	Data are measured or estimated for the subject chemical substance.	1	1	1
	Appropriateness	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Medium	There is no indication that the methodology for producing the information was biased towards a particular product or outcome.	2	1	2
	Reliability / Analytical Method	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.	2	1	2
Other	**Databases**	High	Data is from a publicly available, peer-reviewed database that provides references to a recognized data collection.	1	1	1
	Models	Not rated	Rating of this factor is not applicable to this kind of information.	NR	1	NR
			Sum of scores:	6	4	6
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1.5	**Overall Score (Rounded):**	1.5
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High
The reviewer agreed with the overall rating for the Refractive Index reported by this reference.						
Cited reference: Lewis, R.J. Sr. 2007. Hawley's Condensed Chemical Dictionary 15th Edition. John Wiley & Sons, Inc. New York, NY. P. 435.						

Study Reference:	U.S. EPA (2012)					
Domain	**Metric**	**Qualitative Determination [*i.e.*, High, Medium, Low, Unacceptable, or Not rated]**	**Comments**	**Metric Score**	**Metric Weighting Factor**	**Weighted Score**
Substance	**Representativeness**	Not rated	The metric is not applicable to this study type (SAR).	NR	1	NR
	Appropriateness	Not rated	The metric is not applicable to this study type (SAR).	NR	1	NR
Test Reliability	**Reliability / Unbiased (Method Objectivity)**	Not rated	The metric is not applicable to this study type (SAR).	NR	1	NR
	Reliability / Analytical Method	Not rated	The metric is not applicable to this study type (SAR).	NR	1	NR
Other	**Databases**	Not rated	The metric is not applicable to this study type (SAR).	NR	1	NR
	Models	High	The models in EPI Suite™ have defined endpoints. Chemical domain and performance statistics for each model are known, and unambiguous algorithms are available in the EPI Suite™ documentation and/or cited references to establish their scientific validity. Many EPI Suite™ models have correlation coefficients >0.7, cross-validated correlation coefficients >0.5, and standard error values <0.3; however, correlation coefficients (r^2, q^2) for the regressions of some environmental fate models (*i.e.*, BIOWIN) are lower, as expected, compared to regressions which	1	1	1

			have specific experimental values such as water solubility or log Kow (octanol-water partition coefficient).			
			Sum of scores:	1	1	1
High	Medium	Low	**Overall Score = Sum of Weighted Scores/Sum of Metric Weighting Factors:**	1	**Overall Score (Rounded):**	1
≥1 and <1.7	≥1.7 and <2.3	≥2.3 and ≤3			**Overall Quality Level:**	High

References

Al Motari, MM; Kandil, ME; Marsh, KN; Goodwin, ARH. (2007). Density and viscosity of diisodecyl phthalate C6H4(COOC10H21)(2), with nominal viscosity at T=298 K and p=0.1 MPa of 87 mPa center dot s, at temperatures from (298.15 to 423.15) K and pressures up to 70 MPa. Journal of Chemical and Engineering Data 52: 1233-1239. http://dx.doi.org/10.1021/je600562n

Assael, MJ; Mylona, SK. (2013). A Novel Vibrating-Wire Viscometer for High-Viscosity Liquids at Moderate Pressures. Journal of Chemical and Engineering Data 58: 993-1000. http://dx.doi.org/10.1021/je301306e

Brito e Abreu, S; Avelino, HMN, T; Caetano, FJP; Fareleira, JMN, A. (2010). Density of Diisodecyl Phthalate at Temperatures from (283.15 to 363.15) K and Pressures from (0.1 to 65) MPa. Journal of Chemical and Engineering Data 55: 3525-3531. http://dx.doi.org/10.1021/je1001413

Caetano, FJP; Fareleira, J; Fernandes, AC; Oliveira, C; Serro, A; Simoes de Almeida, IM; Wakeham, WA. (2006). Diisodecylphthalate (DIDP) - a potential standard of moderate viscosity: Surface tension measurements and water content effect on viscosity. Fluid Phase Equilibria 245: 1-5. http://dx.doi.org/10.1016/j.fluid.2006.03.012

Caetano, FJP; Fareleira, JMN, A; Oliveira, CMB, P; Wakeham, WA. (2004). Viscosity of di-isodecylphthalate: A potential standard of moderate viscosity. International Journal of Thermophysics 25: 1311-1322. http://dx.doi.org/10.1007/s10765-004-5740-2

Caetano, FJP; Fareleira, JMN, A; Oliveira, CMB, P; Wakeham, WA. (2005). New measurements of the viscosity of diisodecyl phthalate using a vibrating wire technique. Journal of Chemical and Engineering Data 50: 1875-1878. http://dx.doi.org/10.1021/je050151n

da Mata, JLC; Caetano, FJP; Oliveira, CMB, P; Fareleira, JMN, A. (2009). Viscosity measurements of diisodecyl phthalate using a vibrating wire instrument operated in free decay mode: comparison with results obtained with the forced mode of operation. Journal of Chemical and Engineering Data 54: 2562-2568. http://dx.doi.org/10.1021/je900113f

Froeba, AP; Leipertz, A. (2007). Viscosity of diisodecyl phthalate by surface light scattering (SLS). Journal of Chemical and Engineering Data 52: 1803-1810. http://dx.doi.org/10.1021/je7001623

Harris, KR; Bair, S. (2007). Temperature and pressure dependence of the viscosity of diisodecyl phthalate at temperatures between (0 and 100) degrees C and at pressures to 1 GPa. Journal of Chemical and Engineering Data 52: 272-278. http://dx.doi.org/10.1021/je060382+

Howard, PH; Banerjee, S; Robillard, KH. (1985). Measurement of water solubilities octanol-water partition coefficients and vapor pressures of commercial phthalate esters. Environ Toxicol Chem 4: 653-662. http://dx.doi.org/10.1002/etc.5620040509

NLM (National Institutes of Health, National Library of Medicine). (2015). PubChem: Hazardous Substance Data Bank: Di-isodecyl phthalate, 26761-40-0. Available online at https://pubchem.ncbi.nlm.nih.gov/compound/33599#source=HSDB

Paredes, X; Fandiño, O; Comuñas, MJP; Pensado, AS; Fernández, J. (2009). Study of the effects of pressure on the viscosity and density of diisodecyl phthalate. The Journal of Chemical Thermodynamics 41: 1007-1015. http://dx.doi.org/10.1016/j.jct.2009.04.002

Peleties, F; Segovia, JJ; Trusler, JPM; Vega-Maza, D. (2010). Thermodynamic properties and equation of state of liquid di-isodecyl phthalate at temperature between (273 and 423)K and at pressures up to 140MPa. The Journal of Chemical Thermodynamics 42: 631-639. http://dx.doi.org/10.1016/j.jct.2009.12.002

Peleties, F; Trusler, JPM. (2011). Viscosity of Liquid Di-isodecyl Phthalate at Temperatures Between (274 and 373) K and at Pressures up to 140 MPa. Journal of Chemical and Engineering Data 56: 2236-2241. http://dx.doi.org/10.1021/je101256z

RSC (Royal Society of Chemistry). (2019). ChemSpider: Diisodecyl phthalate (DIDP). Available online at http://www.chemspider.com/Chemical-Structure.30996.html?rid=50cc0e19-fb17-4a54-839d-c44fed21155e&page_num=0

U.S. EPA (U.S. Environmental Protection Agency). (2012). Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11. Washington, DC. https://www.epa.gov/tsca-screening-tools/epi-suitetm-estimation-program-interface